

=> screen 2067

L1 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09963465-2.str

L2 STRUCTURE UPLOADED

=> que L2 AND L1

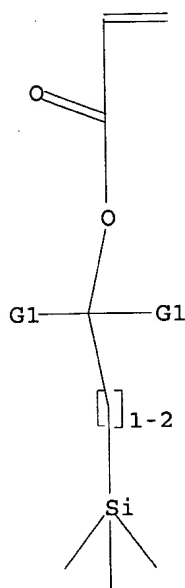
L3 QUE L2 AND L1

=> d

L3 HAS NO ANSWERS

L1 SCR 2067

L2 STR



G1 H, [@1]

STN-CAS Search
Do Not Remove!

¹
Ak

Structure attributes must be viewed using STN Express query preparation.

L3 QUE ABB=ON PLU=ON L2 AND L1

=> s l3 sss sam

SAMPLE SEARCH INITIATED 10:14:23 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 310 TO ITERATE

100.0% PROCESSED 310 ITERATIONS
SEARCH TIME: 00.00.01

9 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 5144 TO 7256
PROJECTED ANSWERS: 9 TO 360

L4 9 SEA SSS SAM L2 AND L1

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 2067

L5 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09963465-3.str

L6 STRUCTURE UPLOADED

=> que L6 AND L5

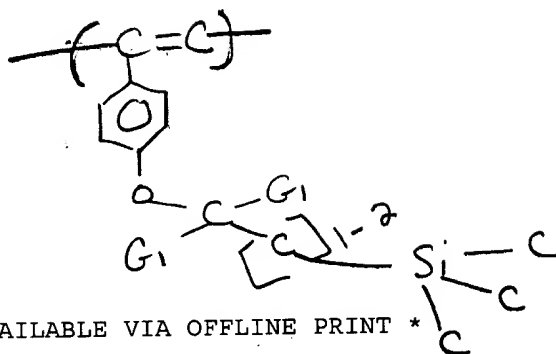
L7 QUE L6 AND L5

=> d

L7 HAS NO ANSWERS

L5 SCR 2067

L6 STR



* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

L7 QUE ABB=ON PLU=ON L6 AND L5

=> s l7 sss sam

SAMPLE SEARCH INITIATED 10:15:05 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 11 TO ITERATE

100.0% PROCESSED 11 ITERATIONS
SEARCH TIME: 00.00.01

0 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 22 TO 418
PROJECTED ANSWERS: 0 TO 0

L8 0 SEA SSS SAM L6 AND L5

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 2067

L9 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09963465-4a.str

L10 STRUCTURE UPLOADED

=> que L10 AND L9

L11 QUE L10 AND L9

=> d

L11 HAS NO ANSWERS

L9 SCR 2067

L10 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L11 QUE ABB=ON PLU=ON L10 AND L9

=> s l11 sss sam
SAMPLE SEARCH INITIATED 10:15:50 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 40 TO ITERATE

100.0% PROCESSED 40 ITERATIONS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 421 TO 1179
PROJECTED ANSWERS: 0 TO 0

L12 0 SEA SSS SAM L10 AND L9

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 2067

L13 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\09963465-4b.str

L14 STRUCTURE UPLOADED

=> que L14 AND L13

L15 QUE L14 AND L13

=> d
L15 HAS NO ANSWERS
L13 SCR 2067
L14 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

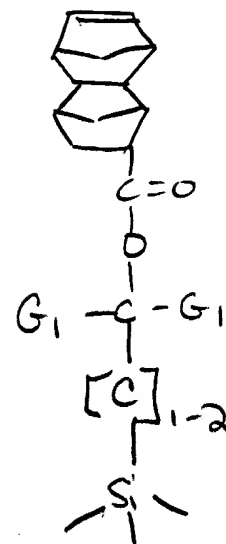
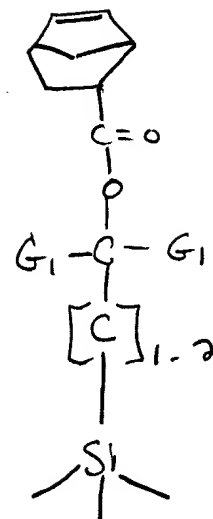
Structure attributes must be viewed using STN Express query preparation.
L15 QUE ABB=ON PLU=ON L14 AND L13

=> s l15 sss sam
SAMPLE SEARCH INITIATED 10:16:23 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1 TO ITERATE

100.0% PROCESSED 1 ITERATIONS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1 TO 80
PROJECTED ANSWERS: 0 TO 0

L16 0 SEA SSS SAM L14 AND L13



=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 2067

L17 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09963465-5.str

L18 STRUCTURE UPLOADED

=> que L18 AND L17

L19 QUE L18 AND L17

=> d

L19 HAS NO ANSWERS

L17 SCR 2067

L18 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

L19 QUE ABB=ON PLU=ON L18 AND L17

=> s l19 sss sam

SAMPLE SEARCH INITIATED 10:16:54 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 3 TO ITERATE

100.0% PROCESSED 3 ITERATIONS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**

PROJECTED ITERATIONS: 3 TO 163

PROJECTED ANSWERS: 0 TO 0

L20 0 SEA SSS SAM L18 AND L17

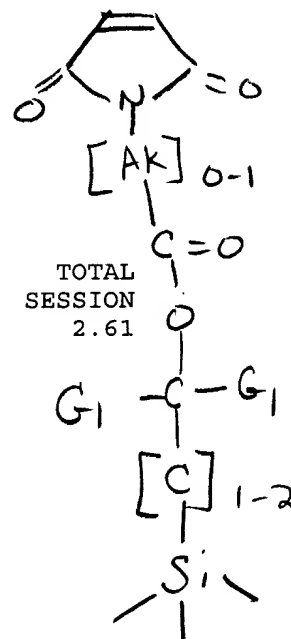
=> FIL CAPLUS HCAPLUS USPATFUL

COST IN U.S. DOLLARS

SINCE FILE
ENTRY
2.40

FULL ESTIMATED COST

0 ANSWERS



FILE 'CAPLUS' ENTERED AT 10:17:05 ON 01 MAY 2003

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'HCAPLUS' ENTERED AT 10:17:05 ON 01 MAY 2003

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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FILE 'USPATFULL' ENTERED AT 10:17:05 ON 01 MAY 2003

CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l4

L21 29 L4

```
=> s l8
L22          0 L8

=> s l12
L23          0 L12

=> s l16
L24          0 L16

=> s l20
L25          0 L20

=> s l21 and (photoresist or resist)
L26          12 L21 AND (PHOTORESIST OR RESIST)
```

```
=> duplicate remove
ENTER L# LIST OR (END):L26
DUPLICATE PREFERENCE IS 'CAPLUS, HCAPLUS'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L26
L27          6 DUPLICATE REMOVE L26 (6 DUPLICATES REMOVED)
```

```
=> d l27 1-6 ibib abs hitstr
```

```
L27 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2003 ACS          DUPLICATE 1
ACCESSION NUMBER:      2002:464506 CAPLUS
DOCUMENT NUMBER:       137:54616
TITLE:                 Positive-working photoresist composition for
                        semiconductor device fabrication
INVENTOR(S):           Sasaki, Tomoya; Mizutani, Kazuyoshi; Yasunami,
                        Shoichiro
PATENT ASSIGNEE(S):    Fuji Photo Film Co., Ltd., Japan
SOURCE:                Jpn. Kokai Tokkyo Koho, 48 pp.
                        CODEN: JKXXAF
DOCUMENT TYPE:         Patent
LANGUAGE:              Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
```

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002174903	A2	20020621	JP 2000-373077	20001207
PRIORITY APPLN. INFO.:			JP 2000-373077	20001207

AB The title compn. contains a resin increasing soly. in alk. developer by an acid and a radiation- or actinic ray -sensitive acid generator, wherein the resin has repeating unit [-COO-C(R1)(R2)-{C(R3)(R4)}m1-Si(R5)(R6)(R7)] (m1 = 1-6 integer; R1-2 = alkyl; R3-4 = H, alkyl; R5-7 = alkyl, aryl, allyl, etc.) and [-CH2-C(Y){L2-COO-C(R1)(R2)-{C(R3)(R4)}m1-Si(R5)(R6)(R7)}] (Y = H, Me, cyano, Cl; m1 = 1-6 integer; R1-2 = alkyl; R3-4 = H, alkyl; R5-7 = alkyl, aryl, allyl, etc.). The compn. provides the high resolu. and the good pattern edge characteristics.

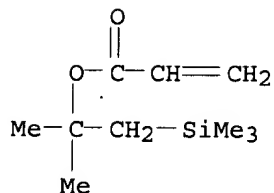
IT **438206-89-4**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (resin in pos.-working **photoresist** compn. for semiconductor device fabrication)

RN 438206-89-4 CAPLUS

CN Tricyclo[3.3.1.1^{3,7}]decane-1-carboxylic acid, 3-[(1-oxo-2-propenyl)oxyl]-, tetrahydro-4,4-dimethyl-2-oxo-3-furanyl ester, polymer with 1,1-dimethyl-2-(trimethylsilyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

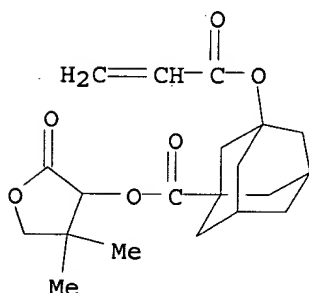
CM 1

CRN 438206-88-3
 CMF C10 H20 O2 Si



CM 2

CRN 405225-41-4
CMF C20 H26 O6



L27 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 2

ACCESSION NUMBER: 2001:603578 CAPLUS

DOCUMENT NUMBER: 135:187712

TITLE: Fluorinated acrylic polymer, chemically amplified **resist** using it, and its patterning

INVENTOR(S): Hatakeyama, Jun; Watanabe, Atsushi; Harada, Yuji

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001226432	A2	20010821	JP 2000-37403	20000216
PRIORITY APPLN. INFO.:			JP 2000-37403	20000216

AB The fluorinated acrylic polymer has a repeating unit of [CR1R2CR3(CO2R4)] [R1-R3 = H, F, C1-10 (fluorinated) alkyl; .gtoreq.1 of R1-R3 contains F; R4 = Si-contg. group]. The **resist** contains the above polymer, an org. solvent, and an acid generator. Patterning is carried out by applying the above **resist** on a substrate via an org. film, heating the substrate, exposing with a .ltoreq.300-nm high-energy or electron beam via a photomask, and developing with a developer optionally after heating, and treating the org. film with an O plasma etching app. The **resist** shows good plasma etching resistance and high sensitivity to high-energy beam, esp. at wavelength .ltoreq.170 nm to give high-resoln. patterns to be useful for ultra-large-scale IC (ULSI).

IT 355138-88-4P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

8/21/01 102(a) late



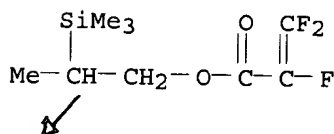
(fluorinated silyl-pendent acrylic polymer for chem. amplified
pos.-working resist)

RN 355138-88-4 CAPLUS
CN 2-Propenoic acid, 2,3,3-trifluoro-, tetrahydro-2-oxo-3-furanyl ester,
polymer with 2-(trimethylsilyl)propyl 2,3,3-trifluoro-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

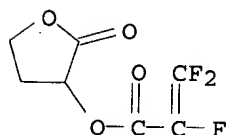
CRN 355138-87-3
CMF C9 H15 F3 O2 Si

$R_4 = \text{CH}_3$
 $R_3 = \text{H}$
 $m = 1$



CM 2

CRN 355138-83-9
CMF C7 H5 F3 O4



L27 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 3

(2)

ACCESSION NUMBER: 2001:521143 CAPLUS

DOCUMENT NUMBER: 135:114437

TITLE: Positive-working photoresist composition for
production of electric parts such as semiconductor
substrate with contact holes

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

102a
date

7/19/01

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001194789	A2	20010719	JP 2000-1896	20000107
PRIORITY APPLN. INFO.:			JP 2000-1896	20000107

AB The title compn. contains: photoacid generator (Rs1) (Rs2) (Rs3) S+ Z- (Rs1-s3 = alkyl, aryl; Z- = counter anion); an acid-sensitive resin which increases soly. towards an alkali by reacting with an acid; and a solvent, wherein the acid-sensitive resin has repeating unit [-CH2-C(Y){-L-CO2-(CH2)2-Si(R')(R'')(R''')}-] (Y = H, Me, cyano, etc.; L = single bond, 2-valent connecting group; R', R'', R''' = alkyl, Ph, trialkylsilyl, trialkylsilyloxy) and one of repeating unit chosen from [-CH2-C(Y){CO2-M1-Q}-] (Y = H, Me, cyano, etc.; M1 = single bond, alkylene, arylene, ester, etc.; Q = alkyl, allyl, alkyl alkylcarbonyl, ester) and [-CH2-C(Y){CO2-M2-W}-] (Y = H, Me, cyano, etc.; M2 = single bond, alkylene, arylene, ester, etc.; W = lactone ring). The compn., which contains the acid-sensitive resin, provides the resist of

the high sensitivity and the high resoln. and is suitable for use in fabrication of contact holes.

IT 344575-88-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(acid-sensitive resin in pos.-working photoresist compn.)

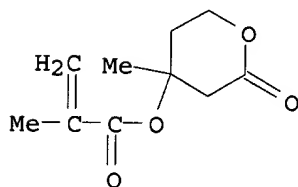
RN 344575-88-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-(trimethylsilyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-66-9

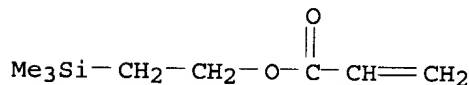
CMF C10 H14 O4



CM 2

CRN 131494-24-1

CMF C8 H16 O2 Si



(3)

L27 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 4

ACCESSION NUMBER: 2001:523649 CAPLUS

DOCUMENT NUMBER: 135:114440

TITLE: Positive-working chemically amplified photoresist composition

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001194788	A2	20010719	JP 2000-1895	20000107
PRIORITY APPLN. INFO.:			JP 2000-1895	20000107

AB The title compn. contains the specific arylsulfonium, sulfide of a arylsulfonium, or aryliodonium photoacid generator and an acid-sensitive resin, which increases the soly. towards an alkali reacting with an acid, contg. a repeating group chosen from [-CH2-C(Y){-L-CO2-(CH2)2-Si(R')(R'')(R''')}]-] (Y = H, Me, cyano, Cl; L = single bond, 2-valent connecting group; R', R'', R''' = alkyl, Ph, trialkylsilyl, etc.), [-CH2-C(Y)(CO2M1-Q)-] (Y = H, Me, cyano, etc.; M1 = single bond,

alkylene, alkylene, etc.; Q = group having specific alicyclic structure), and [-CH₂-C(Y){CO₂-M₂-W}] (Y = H, Me, cyano, etc.; M₂ = single bond, alkylene, alkylene, etc.; W = lactone ring). The compn., which contains the photoacid generator and the acid-sensitive resin, provides the improved margin of the exposure.

IT 344575-88-8P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acid-sensitive resin in pos.-working chem. amplified photoresist compn.)

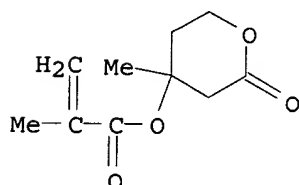
RN 344575-88-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-(trimethylsilyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-66-9

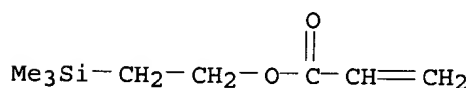
CMF C10 H14 O4



CM 2

CRN 131494-24-1

CMF C8 H16 O2 Si



US 6103448

4

L27 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 5

ACCESSION NUMBER: 2001:521142 CAPLUS

DOCUMENT NUMBER: 135:114436

TITLE: Positive-working **photoresist** composition for semiconductor device fabrication

INVENTOR(S): Sato, Kenichiro; Mizutani, Kazuyoshi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001194787	A2	20010719	JP 2000-1894	20000107
PRIORITY APPLN. INFO.:			JP 2000-1894	20000107

AB The title compn. contains: a photoacid generator; an acid-sensitive resin which increases soly. towards an alkali by reacting with an acid; and a mixed solvent. The acid-sensitive resin has repeating unit

$[-CH_2-C(Y)\{-L-CO_2-(CH_2)_2-Si(R')(R'')(R''')\}-]$ (Y = H, Me, cyano, etc.; L = single bond, 2-valent connecting group; R', R'', R''' = alkyl, Ph, trialkylsilyl, trialkylsilyloxy) and one of repeating unit chosen from $[-CH_2-C(Y)\{CO_2-M_1-Q\}-]$ (Y = H, Me, cyano, etc.; M1 = single bond, alkylene, arylene, ester, etc.; Q = alkyl, allyl, alkyl alkylcarbonyl, ester) and $[-CH_2-C(Y)\{CO_2-M_2-W\}-]$ (Y = H, Me, cyano, etc.; M2 = single bond, alkylene, arylene, ester, etc.; W = lactone ring). The mixed solvent consist of propylene glycol monoalkyl ether alkoxylate and a compd. chosen from propylene glycol monoalkyl ether, alkyl lactate, alkoxyalkylpropionate, .gamma.-butyrolactone, ethylene carbonate, propylene carbonate. The compn., which contains the aforementioned acid-sensitive resin, provides the improved storageability.

IT 344575-88-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(acid-sensitive resin in pos.-working **photoresist** compn.)

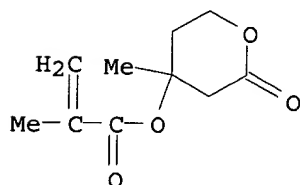
RN 344575-88-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-(trimethylsilyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-66-9

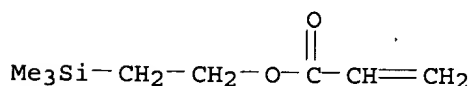
CMF C10 H14 O4



CM 2

CRN 131494-24-1

CMF C8 H16 O2 Si



L27 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 6
 ACCESSION NUMBER: 2001:451204 CAPLUS
 DOCUMENT NUMBER: 135:53506
 TITLE: Positive-working **photoresist** composition
 INVENTOR(S): Mizutani, Kazuyoshi; Sato, Kenichiro
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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6/22/01



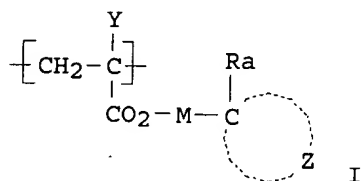
5

JP 2001166482
 PRIORITY APPLN. INFO.:
 GI

A2 20010622

JP 1999-350506
 JP 1999-350506

19991209
 19991209



AB The pos.-working **photoresist** compn. comprises an acid-decomposable polymer, which, increasing the soly. in an alk. developer upon the interaction with an acid, contains repeating units represented by $[H_2CCY\{LCOO(CH_2)_2SiR_1R_2R_3\}]$ (Y = H, Me, cyano, Cl; L = single bond, divalent bonding group; R1-3 = alky, Ph, trialkylsilyl, trialkylsilyloxy) and I (M = single bond, alkylene, etc.; Ra = H, alkyl; Z = at. group forming lactone structure). The pos.-working **photoresist** compn. provided high sensitivity and high resoln., and showed excellent wettability to a developer.

IT 344575-88-8P

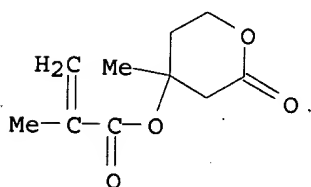
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (pos.-working **photoresist** compn. contg. polymer with lactone structure)

RN 344575-88-8 CAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, polymer with 2-(trimethylsilyl)ethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 177080-66-9
 CMF C10 H14 O4



CM 2

CRN 131494-24-1
 CMF C8 H16 O2 Si

